

ABSTRACT

Reduced Manufacturing Cost of Gypsum Board

Typically in modern gypsum board manufacturing plants, the gypsum slurry is separated into two slurries. One slurry containing more air in the form of foam, relatively low density gypsum, is used for the core of the board. The second slurry/slurries containing less air in the form of foam, relatively high density gypsum, is used for coating of the two paper sheets and along the long edges of the board. Other than the air content, the two slurries are same basic formulations. This patent covers the method of removing some or all of the starch from the relatively low density gypsum slurry for the core along with some of the water in this slurry. This starch, either dry or liquid, and water is then added to the relatively high density gypsum slurry/slurries that are used for the paper coatings and edges of the board. This puts the starch and water near the paper-core interface where it will maintain the bonding of the paper to the gypsum core. The water content of the two slurries will be less than is presently contained in the slurries with the existing manufacturing techniques. This reduce water content will reduce in less energy required to dry the gypsum board in the manufacturing process and therefore reduce the cost to manufacture gypsum board.